

Appl. No. : 10/772,044
Filed : February 4, 2004

AMENDMENTS TO THE CLAIMS

1. (Cancelled)

2. (Currently Amended) ~~The method of Claim 1,~~ A method of preventing preferential corrosion of an extruded material, the method comprising:
homogenizing an aluminum alloy ingot, wherein the aluminum alloy ingot consists of 0.8-1.5wt% Mn, 0.1-0.7wt% Fe, and 0.03-0.6wt% Si, and optionally one or more of 0.00-0.45wt% Cu, 0.0-0.3wt% Mg, 0.0-0.3wt% Cr, 0.0-0.1wt% Ti, 0.0-0.5wt% Zn, 0.0-0.3wt% Zr and 0.0-0.3wt% Ni, the balance being aluminum and any unavoidable impurities;
port hole extruding the aluminum alloy ingot to produce a port hole extruded aluminum alloy; and
drawing the port hole extruded aluminum alloy to form a hollow material, wherein a difference in electric conductivity of individual portions in a lengthwise direction of the hollow material is not more than 1 IACS%, and such that an electric conductivity value becomes at least 39.0 IACS%;
wherein said homogenizing is regulated to precipitate sufficient Mn prior to extruding and drawing so as to produce said 1 IACS% or less conductivity difference in a lengthwise direction of the hollow material and wherein said homogenizing of the ingot is carried out by maintaining the ingot at a first temperature of 500-630°C for more than zero but not more than about 24 hours, cooling the ingot down to a second temperature of 400-500°C at a cooling velocity of not more than 100°C/hr, and maintaining the ingot at said second temperature for about 4 to 48 hours and,
wherein a preferential corrosion of a welded portion of the hollow material is inhibited.

3. (Currently Amended) ~~The method of Claim 1,~~ A method of preventing preferential corrosion of an extruded material, the method comprising:
homogenizing an aluminum alloy ingot, wherein the aluminum alloy ingot consists of 0.8-1.5wt% Mn, 0.1-0.7wt% Fe, and 0.03-0.6wt% Si, and optionally one or more of 0.00-0.45wt% Cu, 0.0-0.3wt% Mg, 0.0-0.3wt% Cr, 0.0-0.1wt% Ti, 0.0-0.5wt% Zn, 0.0-0.3wt% Zr and 0.0-0.3wt% Ni, the balance being aluminum and any unavoidable impurities;

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port hole extruding the aluminum alloy ingot to produce a port hole extruded aluminum alloy; and

drawing the port hole extruded aluminum alloy to form a hollow material, wherein a difference in electric conductivity of individual portions in a lengthwise direction of the hollow material is not more than 1 IACS%, and such that an electric conductivity value becomes at least 39.0 IACS%;

wherein said homogenizing is regulated to precipitate sufficient Mn prior to extruding and drawing so as to produce said 1 IACS% or less conductivity difference in a lengthwise direction of the hollow material and wherein said homogenizing of the ingot is carried out by raising the ingot to a temperature (T1) of 500-630°C, maintaining said ingot at said temperature T1 for more than zero but not more than about 16 hours, cooling the ingot from the temperature T1 to 350°C (T2) at a cooling velocity of not more than 100°C/hr, wherein the time between reaching the temperature T1 to reaching the temperature T2 is maintained within 10-48 hrs, and cooling the ingot at an optional cooling velocity from the temperature T2 to room temperature and,

wherein a preferential corrosion of a welded portion of the hollow material is inhibited.

4. (Currently Amended) ~~The method of Claim 1,~~ A method of preventing preferential corrosion of an extruded material, the method comprising:

homogenizing an aluminum alloy ingot, wherein the aluminum alloy ingot consists of 0.8-1.5wt% Mn, 0.1-0.7wt% Fe, and 0.03-0.6wt% Si, and optionally one or more of 0.00-0.45wt% Cu, 0.0-0.3wt% Mg, 0.0-0.3wt% Cr, 0.0-0.1wt% Ti, 0.0-0.5wt% Zn, 0.0-0.3wt% Zr and 0.0-0.3wt% Ni, the balance being aluminum and any unavoidable impurities;

port hole extruding the aluminum alloy ingot to produce a port hole extruded aluminum alloy; and

drawing the port hole extruded aluminum alloy to form a hollow material, wherein a difference in electric conductivity of individual portions in a lengthwise direction of the hollow material is not more than 1 IACS%, and such that an electric conductivity value becomes at least 39.0 IACS%;

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wherein said homogenizing is regulated to precipitate sufficient Mn prior to extruding and drawing so as to produce said 1 IACS% or less conductivity difference in a lengthwise direction of the hollow material and wherein said homogenizing of the ingot is carried out by maintaining the ingot at a temperature of 400-500°C for 0.5-4 hours, elevating the temperature up to 550-630°C, maintaining the temperature for 0.5-4 hrs., cooling the ingot to 350°C at a cooling velocity of not more than 100°C/hr, and cooling the ingot from 350°C to room temperature at an optional cooling rate and,

wherein a preferential corrosion of a welded portion of the hollow material is inhibited.

5. (Currently Amended) The method of ~~Claim 1~~ Claim 4, comprising drawing the material to manufacture pipe material that is substantially free of surface striations.

6. (New) The method of Claim 2, comprising drawing the material to manufacture pipe material that is substantially free of surface striations.

7. (New) The method of Claim 3, comprising drawing the material to manufacture pipe material that is substantially free of surface striations.